

Claims:-

1. Method for the operation of a sliding closure for metallurgical vessels,  
5 whereby the said sliding closure (10, 40) incorporates at least two opposingly  
tensionable fireproof closure plates (21, 22, 41, 42) which are each slideably  
opposingly positioned within a housing part (17, 19, 47, 49), whereby spring elements  
(23) are incorporated in at least one of the housing parts (17, 19, 47, 49) for the  
tensioning of the closure plates (21, 22, 41, 42), and whereby one closure plate (22,  
10 42) with its housing part (19, 49) can be pushed into a closed, i.e. open position by a  
drive member, characterised in that an off- and/or online diagnosis of the operating  
condition, especially within the area of the closure plates (21, 22, 41, 42) is carried  
out, during which one or more dimensions relating to the size, temperature, pressure  
and/or force are measured and evaluated for the sliding closure (10, 40) either directly  
15 or together with additional relevant process parameters in order to be able to judge the  
operational condition, and therefore also a possible continued use of the sliding  
closure (10, 40).

2. Method according to Claim 1, characterised in that the distance (53) of the  
20 relevant housing parts (17, 19, 47, 49) receiving one of the closure plates (21, 22, 41,  
42) from one another in the diagonal direction in relation to the plate glide surfaces is  
recorded as a dimension and transmitted to an evaluating means (20), whereby said  
distance (53) is preferably measured in several locations.

3. Method according to Claim 1 or 2, characterised in that the pressure of the drive member (25) as well as the stroke position of the slideable closure plate (22, 42) are recorded as a dimension to be measured and evaluated, whereby especially the friction relationships and therefore the condition of the closure plates (21, 22, 41, 42) can be judged in this way with the aid of their contacting glide surfaces (41', 42').

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4. Method according to one of the preceding Claims 1 to 3, characterised in that the temperatures near the housing parts (17, 19, 47, 49), the closure plates (21, 22, 41, 42), and/or at other locations are measured and evaluated.

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5. Method according to one of the preceding Claims 1 to 4, characterised in that the application pressure of the spring elements (23) that tension the closure plates (21, 22, 41, 42) is measured in order to determine whether one or more of the spring elements (23) is no longer functional.

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6. Method according to one of the preceding Claims 1 to 5, characterised in that the dimensions measured as actual values are compared with a target value or a target value range during the evaluation and in that a display or suchlike for the checking or the emergency closure of the sliding closure (10, 40) is activated or a continued use of the same prevented if deviations outside of the tolerance limit are found to exist.

7. Method according to Claim 6, characterised in that the target value or the target value range of the dimensions to be measured is adjusted with the aid of the process parameters during the utilisation period of the closure plates (21, 22, 41, 42),

whereby the wear upon their glide surfaces, i.e. their flow passages and/or temperature changes are incorporated.

8. Method according to one of the preceding Claims 1 to 7, characterised in that  
5 a protocolling and a storing of the measured dimensions of the sliding closure (10, 40), and data relating to the pan and the smelt to be poured are carried out with regard to temperature, treatment, pouring time, etc., which are defined as process parameters and incorporated during the determination of target values.

10 9. Sliding closure, especially for the execution of the method according to one of the preceding Claims 1 to 8, characterised in that for an off- and/or online diagnosis of the operating condition one or more measurement sensors or suchlike are incorporated near the housing parts (17, 19, 47, 49), the drive member (25), and/or at other  
15 locations especially within the area of the closure plates (21, 22, 41, 42), with which size, temperature, pressure and/or force can be measured and subsequently evaluated.

10. Sliding closure according to Claim 9, characterised in that the housing parts (47, 49) are equipped with at least one measuring sensor (50), i.e. one associated measuring element (52), with which a distance (53) of the two housing parts from one  
20 another in a diagonal direction in relation to the plate glide surfaces (41', 42') is evaluated as a dimension and each transmitted to the evaluating means (20).